REMARKS

This is in response to the Office Action dated February 8, 2007. In view of the foregoing amendments and following representations, reconsideration is respectfully requested.

Initially, to facilitate the Examiner's reconsideration of the application, the specification and abstract have been reviewed and revised in order to make a number of minor clarifying and other editorial amendments. Note that the changes to the abstract are submitted in the form of a substitute abstract. Copies of the amended portions of the specification, claims and abstract with changes marked therein are attached and entitled *"Version with Markings to Show Changes Made."*

Next, on pages 2-8 of the rejection, the Examiner rejects claims 1, 6-8 and 29 under 35 U.S.C. § 102(e) as being anticipated by Yamazaki et al. (U.S. Patent No. 6,632,538). It is submitted that the present invention, as defined by the amended claims, now clearly distinguishes over the Yamazaki reference for the following reasons.

The present invention, as defined in claim 1, requires, inter alia:

a plastic protective layer bonded to the surface of the cell, the plastic protective layer being formed of a solidified polyurethane emulsion; and

a holder assembly fixed to the end of the cell, the holder assembly comprising a first holder and a second holder fitted in the first holder; and

a plurality of output terminals interposed between the first holder and the second holder so as to fix the output terminals in position;

wherein the periphery of the holder is formed so as to follow the periphery of the cell,

the polyurethane emulsion is coated over an outer peripheral surface of the cell and an outer peripheral surface of the holder such that the cell and the holder are connected to each other at their interface by the plastic protective layer coating,

the holder forms an attaching portion and a non-attaching portion, both of which are formed by the periphery of the holder assembly, and the cross-sectional area of the

attaching portion is smaller than that of the non-attaching portion, and

the plastic protective layer is coated on the attaching portion and not on the non-attaching portion, and the periphery of the holder is substantially flush with the periphery of the cell.

The present invention eliminates the "separate" outer case of the prior art arrangement, and instead employs a coating-type sheathing formed of "a polyurethane emulsion." By employing the claimed configuration, the present invention achieves a high quality battery pack that "can be efficiently mass-produced using a simple apparatus for spreading the polyurethane emulsion over the surface of the cell." Accordingly, there is no need for a complicated mold or other apparatus as in the prior art battery packs which are produced by inserting the cell at least partly into an outer case. Further, since the plastic protective layer formed by spreading and curing a polyurethane emulsion acts as an outer case which protects the cell, it is not necessary that the cell be received in a separately molded plastic case as in the known battery packs. Accordingly, the battery pack described above is advantageous in that it can be simply and easily mass-produced at a reduced cost while securely protecting the cell (see paragraph [0015] on page 9, lines 5-17 of the present specification).

Yamazaki discloses a battery packet 50 having a battery case 51. However, there is no structure that would correspond to the language of claim 1 requiring a holder assembly, having a first holder and a second holder, and a polyurethane emulsion coated over an outer peripheral surface of the cell and an outer peripheral surface of the holder such that the cell and the holder are connected to each other at their interface by the plastic protective layer coating. Claim 1 further specifies

that the holder assembly defines an attaching portion and a non-attaching portion, the cross-sectional area of which is smaller than that of the non-attaching portion (see Figs.5-6). This arrangement is not remotely disclosed or suggested in the Yamazaki reference.

By making the cross-sectional area of the attaching portion smaller than that of the non-attaching portion, the single plastic protective layer can coat and bond the wide area of the outer periphery of the battery pack including the interface between the cell and the holder, thus it achieves a simple, yet tough, configuration which is less costly to produce (see page 26, paragraph [0035] of the present specification).

In the rejection of claim 2, the Examiner modifies the Yamazaki sheet and cell device in view of the teachings of Aaltonen et al. (U.S. Pub. No. 2003/0108786). In the explanation of the rejection, the Examiner states that:

"*With respect to the plastic protective layer extending the periphery of the cell, Aaltonen et al also teach that optionally, the can structure 12 may be isolated and electrically insulated from external circuitry or contact to prevent accidental electrical short circuits since the can structure is a positive voltage potential when, for example, an aluminum lithium-ion battery cell is used as the battery cell for the battery pack. The can structure 12 preferably is covered with a thin plastic foil, for example, a polyethylene or PET or some other plastic material foil such as illustrated generally by the reference numeral 90 and which foil is slid over the exterior of the can structure 12 such as illustrated in FIGS. 1 and 6 to provide the desired electrical insulation. Additionally, the can structure 12 may be painted, anodized, lacquered or otherwise*

coated with an insulating cover to provide the desired electrical insulation (Paragraph 0041)." (emphasis added)

However, the structure disclosed in Aaltonen is more like the prior art than the present invention (see pages 1-4, paragraphs [0002] to [0005] of the present specification). In particular, Aaltonen employs an elementary battery cell and a separate outer case (i.e. can structure 12). Thus, the manufacture of the Aaltonen battery pack would require several production steps that would add to the production costs. Further, an additional foil 90 to insulate the outer case 12 adds an extra production step and further costs. For example, a label bonded to both sides of the cell would necessitate the cost of the label and the cost of bonding the label, which would increase the production costs.

In any event, the Yamazaki and Aaltonen references, taken alone or in combination, do not disclose or suggest an arrangement without an "outer case", thus any resulting structure would require many production steps and higher production costs.

Further, the Aaltonen reference does not appear to employ "bonding" of the cell and the foil 90 because the reference states that the foil 90 is slidable (as acknowledged by the Examiner). Thus, the foil is not bonded to the cell as required in claim 1.

Further, the Kellner (U.S. Patent No. 4,388,865) and Kuroda (U.S. Patent No. 6,255,433) references also do not teach or suggest a battery pack without an outer case. Therefore, any combination of Yamazaki and Kellner or Kuroda would not result

in Applicant's invention as defined in amended independent claim 1.

In the event that the Examiner has any comments or suggestions of a nature necessary to place this case in condition for allowance, then the Examiner is requested to contact Applicant's undersigned attorney by telephone to promptly resolve any remaining matters.

Respectfully submitted,

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Version with Markings to Show Changes Made

~~BATTERY PACK AND PROCESS FOR THE PRODCUTION THEREOF~~

ABSTRACT OF THE DISCLOSURE

A battery pack ~~comprising~~ including a plastic protective layer bonded to the surface of a cell by spreading over the surface of the cell a polyurethane emulsion ~~comprising~~ having a reaction product obtained by emulsifying and dispersing an intermediate product produced from a compound A made of an organic diisocyanate, a compound B1 made of a polyol mixture having not smaller than at least 2.05 average functional groups and a compound B2 having one hydrophilic center and at least two active hydrogen groups in water.